

SUGGESTIONS REGARDING

THE

Site and Construction

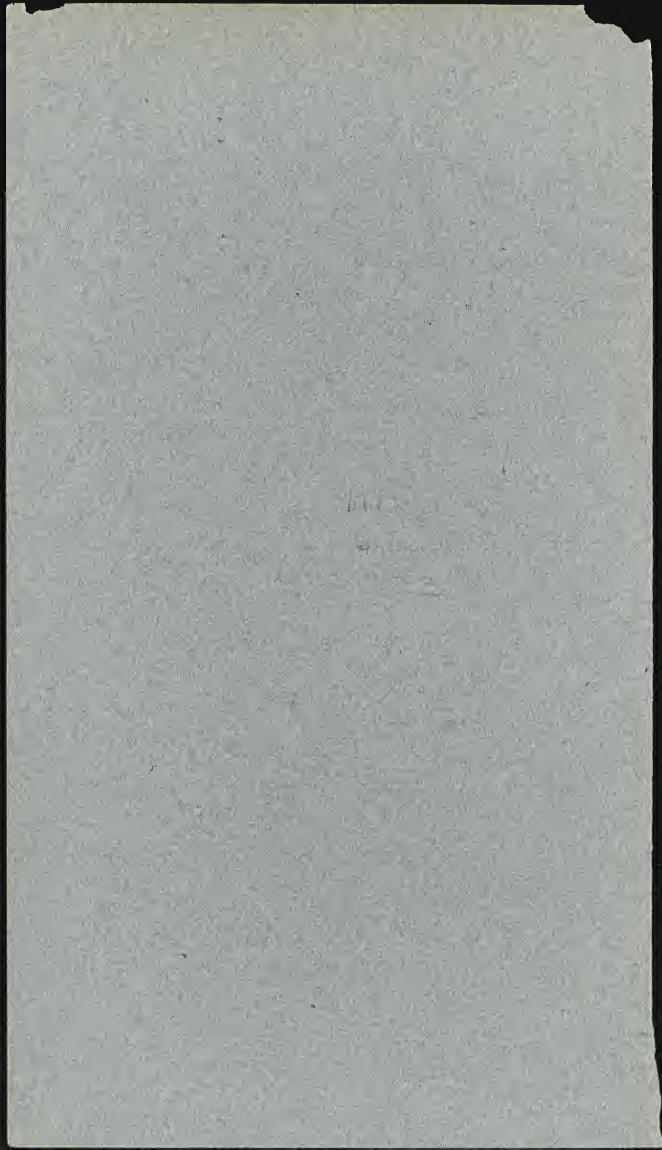
OF

County Hospital-Sanatoria



BY

THOMAS SPEES CARRINGTON, M. D.



SUGGESTIONS REGARDING THE SITE AND CONSTRUCTION OF COUNTY TUBERCULOSIS HOSPITAL-SANATORIA*

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SELECTION OF SITE.

ACCESSIBILITY.

GENERAL CLIMATIC CONSIDERATION.— In selecting a site for a county HOSPITAL-SANATORIUM for tuberculosis, communities must decide whether the advantage of having the patients near at hand and accessible to their friends overweighs the slight advantage sometimes obtained by placing the institution in regions far from the patients' homes. Within a short distance of almost every city and town of this country, land can be obtained on which tuberculosis patients will do well. Indeed, experts on this subject are generally agreed that climatic conditions in the treatment of tuberculosis are not so important as they were formerly believed to be. In fact, the best physicians now often object to sending their patients far from their homes for treatment.

TRANSPORTATION FACILITIES.— Transportation facilities should always be considered, as a long haul from the railroad or landing adds expense both in building and maintenance. Probably in the near future all institutions founded with the intention of eventually housing over one hundred patients will be placed upon land that can be reached without great expense by a private branch or spur from the nearest railroad. A site on a direct trolley line is very desirable so that it will be accessible to the patients' friends. It is always hard to hold consumptives in a sanatorium at first, as the very sick do not like to leave their families and incipient patients become restless if they are not happy; for, indeed, it is often difficult to convince the incipient cases that they are sick enough to be in an institution. If the COUNTY HOSPITAL-SANATORIUM is close to the city where visitors can reach it every day by a short trolley trip, the location will help very largely in making the patients contented.

* It has been suggested that such a local institution for the care and treatment of tuberculosis be called a HOSPITAL-SANATORIUM. This name is particularly appropriate for these county institutions, as the law contemplates that in them both advanced and early cases shall be treated — the former requiring hospital care, and the latter such treatment as may best be given in a sanatorium especially constructed for living in the open air.

THE SITE.

EXTENT AND NATURE OF THE LAND.—The site should be a tract of land from 20 to 100 acres in extent, including forest, orchard and land that can be cultivated. (It is now generally conceded that incipient patients improve faster when they are supplied with work, and under a wise, well-informed medical superintendent they will be able to do a large part of the farm work, with real benefit to themselves and a reduction in the cost of their maintenance.) When there is a choice of a number of sites, a damp or swampy location should be avoided, as such land when used for a HOSPITAL-SANATORIUM must be drained often by a sub-soil method which is expensive.

LIGHTING, WATER AND SEWAGE.—A good supply of water is a necessity and it would prove advantageous for this reason to secure a farm, if possible, within the line of the city water supply and sewer system. Thus, the question of water, sewage disposal and lights would be settled and great expense saved. When this is impossible there should be good springs, a running stream of clear water or a thoroughly protected well on the site, and if these are not above the buildings, a pumping plant will be necessary. The disposal of sewage from the institution must be considered before the land is acquired, as the quality of the soil, the rise of the land and the position of water-courses and lakes enter into the question and increase or reduce the cost of installation and maintenance.

LOCAL CLIMATIC CONDITIONS.

INVESTIGATION.—The climatic conditions should be carefully investigated. The Southern exposure of a hill or mountain is usually to be preferred. Sites where strong prevailing winds exist during certain seasons of the year should be avoided unless protected by forests or hills.

ATTRACTIVENESS.

OUTLOOK.—The living and sleeping quarters should be placed in a manner to give a pleasant and interesting outlook to the patient, who may be housed in a certain building for many months, sometimes extending into years, and the consideration of his comfort, pleasure and contentment will do much to solve the question of holding him.

NATURAL BEAUTY.—It is rather unusual to find beautiful scenery in the neighborhood of cities where HOSPITAL-SANATORIA are needed, but the open country offers a choice of sites which should be considered from this point of view. A sloping or hilly piece of land will be more desirable than a level one. Meadows and trees add to the cheerfulness of the landscape and a forest, lake or stream give great opportunities for amusement.

ARTIFICIAL IMPROVEMENT.—A great deal can be done by artificially improving the grounds where there is a lack of natural beauty, and in the selection of a site in bare country this should be planned for. The problem of holding tuberculous patients at hospitals and sanatoria grows more serious each year, and, as the institutional care of certain classes of patients seems to be an absolute necessity in order to control the disease, every effort should be made to place these institutions upon sites which have attractive natural facilities that will help to amuse and make patients contented.

ADAPTATION OF FARM BUILDINGS ON SITE.

THE FARM-HOUSE.—Often farmhouses or other buildings are found on the land selected, and can be remodeled so as to make useful administration buildings. The expense of construction will be materially reduced if they are good, substantial structures, but they should be examined carefully and insanitary conditions corrected, especially if the buildings are damp at any season of the year.

BARNs AND OUTBUILDINGS.—The barns and out-buildings if in good condition will save a considerable outlay, for they can be used for housing cows, chickens and other domestic animals which should be counted on to reduce the cost of maintenance. (The expense of preparing some land for a HOSPITAL-SANATORIUM site is very great while the natural advantages of another property may be such that a large outlay for improvements is not necessary. For these reasons it is advisable to have a thorough examination of desirable land made by a competent expert on the subject before a site is selected.)

THE COUNTY HOSPITAL-SANATORIUM—WHAT IT SHOULD CONSIST OF.

A well-equipped County HOSPITAL-SANATORIUM should have at least three buildings.

1. An Administration Building.
2. A Pavilion for Advanced Cases.
3. A Lean-to for Incipient Cases; this is a shack or open building.

In planning a HOSPITAL-SANATORIUM a good method to follow is to decide upon the number or rooms needed for administration purposes and the use they are to be put to. Then design the administration building accordingly and build a good, substantial structure on lines that can be enlarged if necessary. The patients should not be placed under this roof, but housed in small cottages, lean-tos or pavilions erected upon positions carefully considered in their relation to the administration building. Usually corridors or passage-ways connecting the buildings are not necessary and with few exceptions need not be considered.

I. THE ADMINISTRATION BUILDING.

FOR SMALL COUNTIES.

GENERAL CHARACTER.—The accompanying plans are for an administration building of a small institution of not over 50 patients, which can be constructed of brick, hollow tile or wood at a cost of from \$15,000 to \$20,000. It is a two-story structure with a high basement in which are placed the heating plant, a refrigerator, coal bunkers and laundry. This building is 39 x 54 feet with a 10-foot wide porch on the front and a 7-foot wide porch on one half of each side of both stories. It has been carefully planned and will be found adequate as well as convenient for any small HOSPITAL-SANATORIUM.

FIRST FLOOR.—On the first floor are the doctor's and superintendent's offices and a large kitchen; also a dining room and sitting room which open by folding doors into the hall, so that the two rooms can be thrown together for amusement purposes.

SECOND FLOOR.—The second floor is divided into medium-sized rooms for the officers, nurses and servants. Most of these apartments open by doors on a large veranda so that the upper story may be used as an infirmary or for nurses and servants who may wish to sleep in the open air.

FOR LARGE COUNTIES.

Where the proposed institution is intended for more than fifty patients, the plans showing the administration and service building under separate roofs should be considered. These buildings are arranged for the administering of an institution of from 50 to 150 patients and should be substantially constructed, of fire-proof material, at a cost of from \$30,000 to \$50,000. The front or administration building proper is 44 x 55 feet, two stories and basement, containing offices, reception rooms, superintendent's quarters and apartments for the medical staff. The rear or service building is 43 x 69 feet, two stories and cellar and is divided into a large and small dining room, kitchen and apartments for servants.

2. PAVILION FOR ADVANCED CASES.

FOR BOTH LARGE AND SMALL INSTITUTIONS.

At least one building for advanced cases should be constructed in a substantial manner and divided into rooms as shown in the accompanying floor plan. This pavilion has a capacity for twenty beds in ten rooms, each 10 x 12 feet, fronting on a porch 11 feet wide and opening into a corridor on the rear, 6 feet wide, with toilets,

NOTE.—The estimates on cost of construction given in this article are based on prices for labor and material in New York city.

lockers and baths housed in extensions behind the halls. In the centre is a room 18x19 feet for the attendants which overlooks both porches. Across the hall to the rear is a diet kitchen, 8x16 feet, where food sent in from the service building can be warmed before being served. The entire building should be heated and constructed in a manner to give the same comfort that would be given to patients in a general hospital, and this can be done for from \$10,000 to \$25,000 according to the material and finish used.

3. THE "LEAN-TO" FOR INCIPIENT CASES.

GENERAL CHARACTERISTICS.

At the present time the simplest method of housing incipient cases is to use the lean-to type of building. The incipient tuberculous patients bear cold well, and expensive sash and glass windows or doors enclosing open-air shacks or lean-tos are in most cases unnecessary. Lean-tos should be built with plenty of porch space in front of the building to give room at the end of the beds for patients to move about freely. A locker for each patient, large enough to be used as a private dressing room about 21-2x4 feet, is a necessity and does much to make the patients comfortable and contented. These buildings should be placed on piers without cellars, and the front of the porches protected by canvas screens. The toilet, dressing and sitting rooms must be heated, but it is not necessary to heat the open porches which are usually left without ceiling or other finish. For these reasons the incipient patients' quarters can be built cheaply and still have an attractive appearance, as the outside walls and roof can be shingled and appropriately stained.

THE STRUCTURE ITSELF.—One or two lean-tos of frame construction built on the lines of the floor plan shown in the accompanying illustration will be needed. This building is 146 feet long. The central apartment is 18x25 feet, containing a sitting room and closets. On each side are porches 25x60 feet, divided into two sections by partitions placed where the doors open into the rear extensions, each section housing 5 patients. There is a rear extension for each porch 16x33 feet, containing dressing, locker and toilet rooms. The entire building has a capacity of 20 beds and will cost from \$3000 to \$5000.

A STAFF COTTAGE.

This building should be constructed in connection with the larger HOSPITAL-SANATORIA as it has been found that usually the medical and nursing staff of these institutions is made up of persons who have been cured of tuberculosis. This cottage or pavilion (see the accompanying floor plan) is arranged with sleeping porch space for each room in order to give those who desire it an opportunity to sleep in the open air. It can be built for about \$5000.

GENERAL PROBLEMS REGARDING THE BUILDINGS.

VENTILATION.

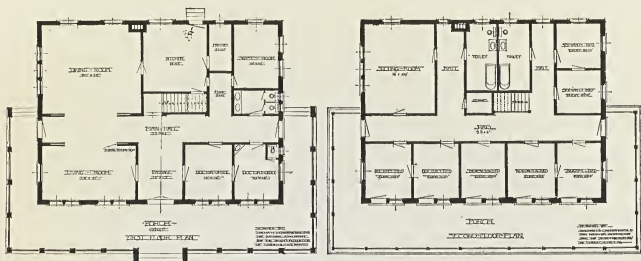
Ventilation is a most important question to be considered. Even lean-tos with open fronts are often badly ventilated and at times the air of the porches becomes full of foul odors where cross circulation is not obtained. Cross circulation is produced by openings, usually windows, on opposite sides of apartments and is practically a necessity in all rooms, wards and porches used by tuberculous patients.

BUILDING MATERIAL ON SITE.

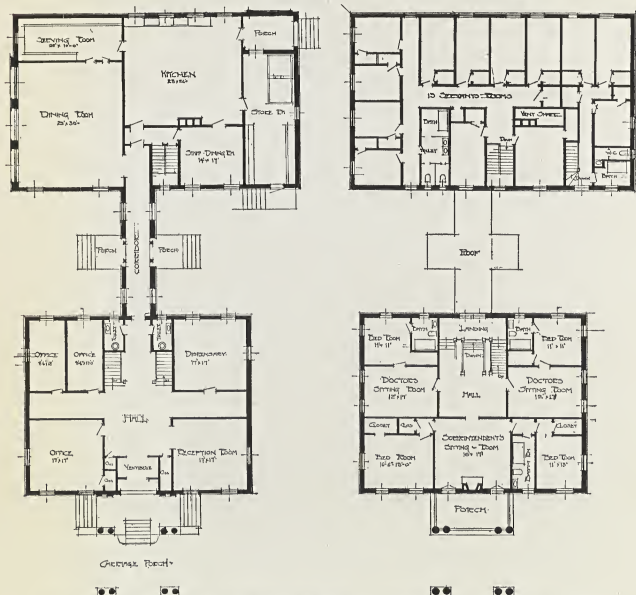
Often the site selected will supply some of the building material. In many parts of the country timber is plentiful, and in these localities frame buildings will be the cheapest. Shacks have sometimes been erected in the lumber regions with no expense for the cost of labor. In many places sand for concrete, clay for brick, and rock for stone buildings will be found on the property selected.

PLUMBING AND HEATING.

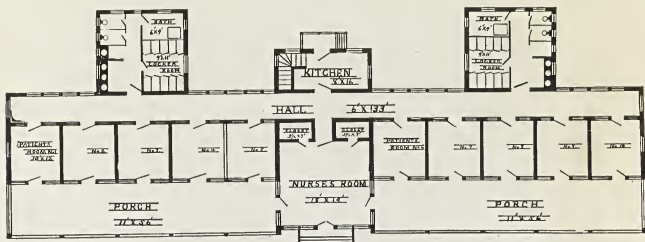
If heavy frosts are frequent, substantial buildings and heating plants will be necessary, and careful consideration must be given to the placing of baths, toilets and sinks, so as to keep the water supply and drainage from freezing.



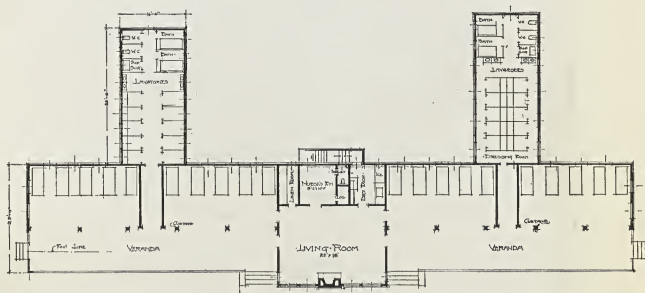
No. 1. First and second floor plan of the Administration Building for small County Hospital-Sanatoria, designed by Dr. Thomas S. Carrington.



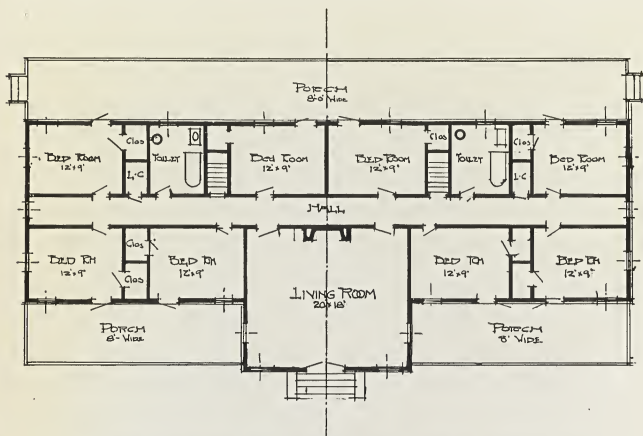
No. 2. First and second floor plan of the Administration Building for a large County Hospital-Sanatorium, designed by Mr. Charles F. Crandall.



No. 3. Floor plan of pavilion for twenty advanced cases, designed by Mr. Charles F. Crandall.



No. 4. Floor plan of lean-to for twenty incipient cases, designed by Mr. Charles F. Crandall.



No. 5. Floor plan of cottage pavilion for the staff, designed by Mr. Charles F. Crandall.



No. 6. Front elevation of an Administration Building for small Hospital-Sanatoria, designed by Dr. Thomas S. Carrington.



No. 7. View of a lean-to for incipient cases, designed by Dr. Herbert M. King.



No. 8. View of pavilion for advanced cases, used at Maryland State Sanatorium.



